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ABSTRACT

Development and initial validation are described for an instrument to assess the behavioral coping skills of adolescents. The Assessment of Behavioral Coping Skills (ABCS) was designed for use in the South Carolina Coping Skills Project, a school-based coping skills prevention program for adolescents at high risk for substance abuse. The ABCS consists of five videotaped vignettes or skits depicting adolescents in problematic situations (e.g., peer pressure to smoke marijuana, anxiety before an upcoming event, trying to make a date, an argument with parents). Questions follow each presentation, and respondents write their answers on a response form. Responses are coded for content and effectiveness of the coping responses using a scheme derived from the responses of 47 high-risk high school students for whom interrater reliability exceeded 80%. The ABCS was tested with 466 high-risk junior high and high school students, with a follow-up for 273 of these students conducted after 1 year. A sample of 77 adolescents from church youth groups, not considered at high risk, also completed the ABCS. Correlations indicated that the forms of the measure were comparable and that the measure was sensitive enough to detect changes brought about by preventive interventions. Although these preliminary findings support the stability, sensitivity, and discriminability of the developed measure, additional work is necessary to establish the construct validity of the measure. Four tables summarize the data. (SLD)

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Development of a Measure of Behavioral Coping Skills for Adolescents

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Development of a Measure of Behavioral Coping Skills for Adolescents

The Concept of coping skills and coping styles, especially in relation to stress, has become an increasingly important area of research. The measurement of coping during adulthood has been investigated by a number of researchers. There are a variety of measures available to assess coping for adults, including the Ways of Coping Scale (Lazarus & Folkman, 1984), the Health and Daily Living Form (Moos, Cronkite, Billings, & Finney, 1982), the Parental Coping Scale (Damrosch & Lenz, 1984), and the Coping Strategies Scales (Beckham & Adams, 1984). In general, these measures have been designed to assess an individual's style of coping with daily life stressors or major life events.

There are only a few measures with sufficient psychometric development for the assessment of coping styles and skills for adolescents. Much of the available research in this area concentrates mainly on coping with stressful life events and looks at general coping style rather than specific coping skills or techniques (e.g., Patterson & McCubbin, 1987; Wills, 1986). An alternative strategy is reflected in the

Adolescent Problem Inventory in which the adolescent responds to 44 problem situations (Freedman, et al., 1978). However, in this measure responses are rated on a single dimension of competent to incompetent. Elias, Rothbaum, and Gara (1986) developed a measure of problem solving skills incorporating quantitative ratings on multiple dimensions but this measure is limited to demonstration of problem solving and decision-making skills.

Some investigators have recognized the need for additional work in the assessment of adolescent coping (Compas, Malcarne, & Fondacaro, 1988), as well as, research to identify the types of coping skills adolescents use and how the solutions they generate to various stressful events differ from adults. Preventive interventions based on the development of behavioral coping skills such as relaxation, assertiveness and problem-solving have become increasingly popular. There are few assessment strategies available to document skill acquisition and change in these domains. The research reported here describes the development and initial validation of an instrument to assess behavioral coping skills with adolescents. The measure is designed to examine

specific coping strategies and techniques and to provide a quantitative indicator of coping skill.

Method

The Assessment of Behavioral Coping Skills (ABCS) was designed for use in Project SCCOPE (the South Carolina Coping Skills Project), a school-based coping skills prevention program for adolescents at high risk for substance use (Forman & Linney, 1989). The ABCS consists of five videotaped "vignettes" or skits depicting adolescents in problematic situations (e.g., peer pressure to smoke marijuana, anxiety before an upcoming event, trying to make a date, an argument with parents). Each vignette was designed to assess a different type of coping skill and features a main actor in a situation which calls for the primary use of one of the following types of coping techniques: social skills, decision-making skills, communication skills, anxiety management skills, or assertiveness skills. These vignettes were developed with input from teens and scripts were written with the assistance of the teens who served as actors.

Presentation of each of the vignettes is followed by a series of questions which appear both on the video television screen and on the paper ABCS response form.

In addition, a narrating voice on the videotape reads the questions aloud as they are presented. Respondents are given as much time as they need to write their answers on the response form. In each vignette the subjects is asked to identify the problem facing the focal actor and to write down what the actor should do and say in response to each situation. Three forms of the ABCS were developed. The three forms vary in story line and actors only. The same five types of coping skills are assessed with each form. Comparable forms of this type of measure make the instrument more useful for assessment of change and evaluation of intervention effects.

Coding Responses

Responses to the questions for each vignette are coded for the following: 1) the number of options or alternative responses generated, 2) the specificity of the responses, 3) whether the responses are prosocial/legal or antisocial/illegal, and 4) the relevance and effectiveness of the coping responses. In addition, using a 5-point, Likert-type scale coders assign an Overall Coping Skill score for each vignette. Subjects' answers are also coded for the presence or absence of specific, pre-determined coping skills

(e.g., deep breathing in the anxiety management vignettes, asking questions in the communication skill vignettes.) A total Coping Skill score can be calculated for each subject using the following rationally derived formula: (2 x number of options) + (2 x specificity rating) + (relevance rating) + (effectiveness rating) + (number of options x prosocial/legal rating).

The coding scheme was derived from the responses of 47 high-risk high school youth who voluntarily responded to all fifteen vignettes. Inter-rater agreements for a sub-sample of these responses exceeded criterion of 80 percent. Seven new raters were trained in the coding system and rated all subsequent vignettes. Ten randomly selected vignette sets were coded by all seven raters at three times during the coding process to determine inter-rater reliability. Inter-rater reliability estimated with Pearson correlations for each pair of raters for each category rating, ranged from .26 to .96 with a median correlation of .64.

Subjects

Two separate samples of adolescents were involved in the development and validation of the ABCS.

High-Risk Sample. As part of Project SCCOPE, the ABCS was administered to 466 male and female (63 percent male and 37 percent female), junior high and high school students were considered to be at high risk for substance use. High risk was defined as the presence of two or more risk factors including excessive school absence, high incidence of discipline problems, poor academic performance, low self-concept, involvement with peers suspected of substance use, or substance use by family members.

The high-risk students were drawn from 29 schools representing both urban and rural areas and all SES levels. Seventy-five percent of the adolescents in the sample were while, twenty-five percent were black. Data were collected at the start and conclusion of the intervention and again at one year follow-up for 273 of the teens in the original sample. At the first assessment, one-third of the sample received each form. Subjects assessed at multiple times were administered a different form of the ABCS at each time of testing. The ABCS was administered to the high-risk sample in small groups of two to four students. These students also completed self-report measures of self-esteem, self-confidence, social anxiety, and assertiveness.

(See Forman & Linney, 1989, for a complete description of the procedures and measures.)

Non-High-Risk Sample. In addition to the SCCOPE sample, the ABCS was administered to 77 male and female (44 percent male and 56 percent female) adolescents who were members of several organized church youth groups. The subjects, who ranged in age from 11 to 18, were from an urban area and a wide range of SES levels. All of these adolescents were white. Although the teens were not formally assessed for risk of substance use, it was assumed that the sample as a whole was significantly less at risk for substance use than the SCCOPE sample. Therefore, this group of teens is referred to as the "non-high-risk" sample.

The non-high-risk sample was administered the ABCS in the same way as the high-risk sample with tow exceptions. Adolescents in the non-high-risk sample completed the ABCS in larger groups (up to 25 adolescents per group) and all non-high-risk teens were assessed on time with a single form of the ABCS. These adolescents also completed the self-report measures of self-esteem, self-confidence, social anxiety, and assertiveness.

Results

Reliability. Comparability of the three forms and stability of overall coping skill scores was estimated with Pearson correlations between two assessments conducted 15 weeks apart for students in both the coping and non-coping skills intervention conditions of Project SCCOPE. Since the students did not complete the same form of the measure at these two times and because it was thought that students would have learned some of the coping skills in the course of everyday activity, moderate correlations were expected. We anticipated higher correlations for the non-coping skills group students than for those who received training in coping skills. The correlations for both groups are shown in Table 1. As expected the correlations over time for the non-coping skills intervention condition are in the moderate range (.13 - .38), and are notably higher than those for students in the coping skills intervention condition. The magnitude of these correlations supports the comparability of the multiple form of the ABCS and suggests that the measure is sensitive enough to detect change.

Construct Validity. Theoretical formulations and some empirical research suggest that more effective coping is related to higher levels of self-esteem and self-confidence. Table 2 shows intercorrelations among the Overall Coping Skill score for each skill area and self-report of self-esteem and self-confidence (measures drawn from Botvin, et al., 1984). For the non-high-risk sample there are significant relationships between self-confidence and decision-making, communication, and anxiety management coping skills. Self-esteem is not significantly correlated with communication, anxiety management, or assertiveness coping skills. Curiously, there are negative correlations between self-esteem and social skills and decision-making skills.

For the high-risk sample a very different pattern of relationships is evident. The only positive correlations are between self-confidence and assertiveness skills and self-esteem and decision-making skills. Given the nature of this sample (i.e., poor school performance, high incidence of discipline problems, high rates of absenteeism, teacher's perception of poor self-concept), it may be that self-esteem and confidence are derived from assertive and

decisive actions rather than the more person-oriented and reflective skills embodied in the communication, social skills, and anxiety management vignettes in this measure.

The social anxiety measure included here has been used by others (Botvin, et al., 1984) as an outcome measure of skill enhancement. Similarly the Gambrill & Richey (1975) Assertion Inventory was included as a measure of assertiveness. In these samples, the Assertion Inventory was not significantly related to the ABCS Assertiveness score, and the social anxiety measure was unrelated to skill in anxiety management. Social anxiety was inversely related to ABCS assertiveness in the non-high-risk group and inversely related to ABCS decision-making in the high-risk sample.

This pattern of relations does not provide a clear picture of construct validity among this set of measures. This may be due in part to the fact that the ABCS is assessing similar constructs (e.g., assertion) with a different method, and as a demonstration of skills, rather than self-perception. Further construct validation with other more skill based measures and assessments of coping styles is needed.

Discriminability. Two group MANOVAs were computed with ABCS scores for the high-risk and non-high-risk samples to examine the measure's ability to detect differences between groups hypothesized to be different on these skills. Results (Table 3) indicated that the non-high-risk sample scored significantly higher than the high-risk sample on Total Coping in four of the five ABCS coping skill areas: Social skills, decision-making, communication, and anxiety management (Multivariate $F = 4.40$; $df = 5, 153$; $p \leq .001$). Similarly, the non-high-risk sample scored significantly higher than the high risk sample on Overall Coping in four of the five ABCS coping skill areas: Social skills, decision-making, anxiety management, and assertiveness (Multivariate $F = 14.47$; $df = 5, 153$; $p \leq .001$).

Within the high-risk sample, significant differences were found between the ABCS scores of students who participated in a coping skills training intervention and students who did not participate in coping skills training. Condition x Time (2 x 3) MANOVAs were used to test differential change over three assessment times between the high-risk group receiving coping skills training and the high-risk

group that did not. There was a significant Condition by Time interaction for Total Coping scores ($F(10,424) = 2.23$; $p \leq .05$), as well as, for the Overall Coping scores ($F(10,104) = 3.11$; $p \leq .01$). The means show that the coping skills training group improved in all five coping skill areas (i.e., social skills, decision-making, communication, anxiety management, and assertiveness) as predicted, providing evidence of the measure's sensitivity to change.

Sex, Race, and Age Differences. An analysis of variance performed on the ABCS Total Coping and Overall Coping scores indicated significant differences between males and females (Table 4). Females from the high-risk and non-high-risk samples combined, scored significantly higher than males in three coping skill areas: Social skills, decision-making, and assertiveness.

No significant differences were found between white and black students in the high-risk sample on social skills, decision-making, or assertiveness, indicating that the ABCS assesses coping skill unrelated to race.

Pearson correlations calculated between age and Total Coping scores and Overall Coping scores were not

significant with one exception: Total Coping for decision-making correlated .10 with age ($p \leq .04$; $N = 333$). In general, the ABCS appears to assess coping skill independent of age.

Discussion

These analyses provide preliminary evidence of stability, sensitivity to change, and discriminability for the ABCS. The data presented here, however, should be viewed cautiously, as they represent only the early developmental stages of a rather unique measure of adolescent coping skill. Before assessing the full usefulness of the ABCS, additional work needs to be completed. For example, test-retest data over a shorter span of time (e.g., 3 weeks) will be necessary to establish more accurately the stability of the ABCS.

Additional research is needed to establish the construct validity of the measure. The social anxiety and self-confidence measures used to examine construct validity in this study have produced only modest and inconsistent correlations. It may be that the predicted relations between coping skills and self-perceptions are mediated by other constructs or events not assessed here. The absence of correlations between

the ABCS and a commonly used measure of assertiveness is most likely a reflection of differing definitions of the construct and variations in method.

Further examination of gender differences in the ABCS scores should be pursued. At this point, it is difficult to determine whether the observed female advantage is due to actual gender differences in coping skill or whether it is because the ABCS represents a "verbal," open-ended measure which allows female adolescents, who often perform better than males on "verbal" instruments, to score higher.

The ABCS appears to be quite powerful in discriminating between groups of adolescents expected to differ in level of coping ability, (e.g., teenagers who are at high risk for substance use and teenagers who are not). This, along with the measure's ability to detect change in coping skills over time, suggests that with further research, the ABCS is a potentially useful tool in furthering our understanding of adolescent coping and the effect of preventive intervention based on a coping skills model.

Table 1

Pearson Correlations Between Pre- and Post-test ABCS Scores for High-risk Students

Overall Coping Skill Score	Non-Coping Skills Training Group	Coping Skills Training Group
Social Skills	.34**	.14*
Decision Making	.28**	.13*
Communication	.13	.15*
Anxiety Management	.30**	.24**
Assertiveness	.38**	.40**
	N = 83	N = 181

*$p \leq .05$. **$p \leq .01$

Table 2

Inter-Correlations Among ABCS Scores and Self-report Ratings

Non-High-Risk Sample

	ABCS Total/Overall Skill Scores				
	SS	DM	CO	AX	AS
Self-Confidence	---	.20	.25	.20	---
Self-esteem	-.20	-.19	---	---	---
Social Anxiety	---	---	---	---	-.25
Assertiveness	---	---	---	---	---

N = 77, $p \leq .05$

High Risk Sample

	ABCS Total/Overall Skill Scores				
	SS	DM	CO	AX	AS
Self-Confidence	-.19	-.18	---	---	.23
Self-esteem	---	.18	-.23	---	---
Social Anxiety	---	-.23	---	---	---
Assertiveness	---	---	-.21	---	---

N = 79, ($p \leq .05$)

Note. SS = Social Skills, DM = Decision Making, CO = Communication, AX = Anxiety Management, and AS = Assertiveness.

Table 3

Comparison of ABCS Scores for High-Risk and Non-High-Risk Samples

	Mean Total Coping Skill Score			
	High-Risk	Non-High-Risk		
Coping Skill Area			*F*	*df*
Social Skills	38.02	46.96	20.43*	(1, 157)
Decision Making	29.45	32.76	4.98*	(1, 157)
Communication	26.51	30.08	5.54*	(1, 157)
Anxiety Management	33.14	36.91	5.47*	(1, 157)
Assertiveness	40.98	42.33	.36	(1, 157)

	Mean Overall Coping Skill Score			
	High-Risk	Non-High-Risk		
Coping Skill Area			*F*	*df*
Social Skills	2.67	3.45	42.03**	(1, 157)
Decision Making	2.82	3.25	12.38**	(1, 157)
Communication	2.78	2.80	.03	(1, 157)
Anxiety Management	2.26	2.95	31.40**	(1, 157)
Assertiveness	2.96	3.43	9.99**	(1, 157)

Note. All subjects were assessed with the same ABCS form.

*$p \leq .05$. **$p \leq .01$.

Table 4

ABCS Scores by Gender

Mean Total Coping Skill Score					
	Female	Male			
Coping Skill Area			F	df	p
Social Skills	46.62	38.86	14.15	(1, 152)	.00
Decision Making	33.29	29.43	6.51	(1, 152)	.01
Communication	29.19	28.03	.56	(1, 152)	.45
Anxiety Management	35.38	34.83	.15	(1, 152)	.70
Assertiveness	44.06	39.29	4.35	(1, 152)	.04

Mean Overall Coping Skill Score					
	Female	Male			
Coping Skill Area			F	df	p
Social Skills	3.29	2.86	10.29	(1, 152)	.00
Decision Making	3.24	2.84	9.92	(1, 152)	.00
Communication	2.91	2.73	2.30	(1, 152)	.13
Anxiety Management	2.75	2.50	3.33	(1, 152)	.07
Assertiveness	3.40	3.02	6.23	(1, 152)	.02
	N = 72	N = 82			

Note: All subjects were assessed with the same ABCS form.

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